

**REMARKS**

Favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Claims 23 and 30 have been amended as suggested by the Examiner. This amendment is supported in the specification at page 6, line 31.

In view of these amendments, the rejection of claims 23 and 30 under 35 USC 112, first paragraph, is deemed to be overcome.

Applicant acknowledges with thanks the acknowledgment and approval of the Substitute Specification with Abstract and Oath previously filed.

The remaining issue is a rejection of the claims under obviousness-type double patenting over the claims of USP 5,700,637 or the claims of USP 6,054,270, or a provisional rejection of the claims over claims of co-pending applications Serial Nos. 09/300,279; 09/498,029; 09/619,645; 09/422,804; and 09/691,223.

There is submitted herewith a Terminal Disclaimer which is believed to overcome each of these grounds of rejection.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "Version with markings to show changes made".

In view of the foregoing, it is believed that each ground of rejection has been overcome. Favorable reconsideration and allowance is solicited.

Respectfully submitted,  
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Page 9, line 30, change "occurrences" to -- occurrences --.

Page 13, line 21, change "positons" to -- positions --.

### IN THE ABSTRACT

Please insert the attached Abstract consisting of a single sheet with the application papers.

### IN THE CLAIMS

Cancel without prejudice claim 1 and add thereto the following new claims:

-- 17. An apparatus for analysing a polynucleotide, the apparatus comprising an impermeable support segregated into at least two defined cells, the cells having oligonucleotides covalently attached thereto, wherein the sequence of the oligonucleotides of a first cell is different from the sequence of the oligonucleotides of a second cell.

18. The apparatus of claim 17, wherein the length of each oligonucleotide is from 8 to 20 nucleotides.

19. The apparatus of claim 17, wherein the cells have a size of about 10 $\mu$ m to about 100 $\mu$ m.

20. The apparatus of claim 17, wherein the cells are separated by a solvent-repellent grid.

21. The apparatus of claim 17, wherein the impermeable support is glass.

22. The apparatus of claim 17, wherein each oligonucleotide is bound to the support by a covalent link through a terminal nucleotide.

23. (Amended) The apparatus of claim 17, comprising between 72 and 10<sup>12</sup> cells.

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24. The apparatus of claim 17, comprising  $4^s$  oligonucleotide sequences of length  $s$ , wherein  $s \geq 4$ , and comprises  $4^s$  cells.

25. The apparatus of claim 17, wherein the oligonucleotides in the cells have overlapping sequences for mismatch scanning of the polynucleotide.

26. An apparatus for analysing a polynucleotide, the apparatus comprising an impermeable glass plate with patches of microporous glass, the patches defining cells of an array, each cell having oligonucleotides covalently attached thereto, wherein the sequence of the oligonucleotides of a first cell is different from the sequence of the oligonucleotides of a second cell.

27. The apparatus of claim 26, wherein the length of each oligonucleotide is from 8 to 20 nucleotides.

28. The apparatus of claim 26, wherein the cells have a size of about  $10\mu\text{m}$  to about  $100\mu\text{m}$ .

29. The apparatus of claim 26, wherein each oligonucleotide is bound to a patch by a covalent link through a terminal nucleotide.

30. (Amended) The apparatus of claim 26, comprising between  $72$  and  $10^{12}$  cells.

31. The apparatus of claim 26, comprising  $4^s$  oligonucleotide sequences of length  $s$ , wherein  $s \geq 4$ , and comprises  $4^s$  cells.

32. The apparatus of claim 26, wherein the oligonucleotides in the cells have overlapping sequences for mismatch scanning of the polynucleotide.